



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
61/016,300	12/12/2001	Gwo-Chuan Tzu	6198/TCG/WCVD/BG	7467

7590 12/17/2003

Patent Counsel
Applied Materials Inc
Legal Affairs Department
P O Box 450A
Santa Clara, CA 95052

EXAMINER

ZERVIGON, RUDY

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,300

Applicant(s)

TZU ET AL.

Examiner

Rudy Zervigon

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-6, 20-23, 29-33 and 37-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-6, 20-23, 29-33 and 37-41 is/are rejected.
- 7) ☒ Claim(s) 20 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "mixer" must be shown or the feature canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "fitting" must be shown or the feature canceled from the claim. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 12-19 of copending Application No. 09/798,258 in view of Tomita et al (USPat. 5,423,936). Independent claims 1, 8, 25, 42, and 48 of Application No. 10/016,300 do not claim both temperature and pressure control. Claim 12 of Application No. 09/798,258 claims a temperature and pressure control system. Tomita further teaches a temperature control system (41, 62/63; Figure 1; column 3, lines 51-61) in thermal communication with the processing chamber (1, Figure 1); and a pressure control system (70, 82, 84; Figure 1; column 4, lines 61-68) in fluid communication with the processing chamber (1, Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the temperature and pressure control of Application No. 09/798,258 and Tomita as part of the apparatus of Application No. 10/016,300.

Motivation to add the temperature and pressure control of Application No. 09/798,258 and Tomita as part of the apparatus of Application No. 10/016,300 is to optimize the pressure and temperature of the apparatus of Application No. 10/016,300.

Further, it would be obvious to those of ordinary skill in the art to optimize the operation of the claimed invention (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980); In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990), MPEP 2144.05).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 09/798,251. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 09/798,251 claims "...a baffle plate mounted to said second surface, said baffle plate including first and second opposed sides..", while the claims of the present application claim, for example, "...a mixer coupled to the second surface of the lid, the mixer having a central passage in communication with the flow channels".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the mixer of the present application with the baffle plate of Application No. 09/798,251.

Motivation to replace the mixer of the present application with the baffle plate of Application No. 09/798,251 is to provide alternate and equivalent means for distributing process gasses.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

6. Claim 37 is objected to because of the following informalities: Claim 37 states "wherein the wherein the". Appropriate correction is required.

7. Claim 20 is objected to because of the following informalities: Claim 20 depends from a higher numbered claim 22.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 3-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1 requires a "mixer". The specification does not provide a description in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 3- are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 103

12. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

13. Claims 3-6, 20-23, 29-33, and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conger et al (USPat. 4,761,269) in view of Hao et al (USPat. 6,123,775).

Conger teaches:

- i. A lid assembly (16; Figure 2; column 5, line 54 - column 6, line 26; Compare applicant's lid 20; Figure 2) for a semiconductor processing system (column 1, lines 10-15), said lid assembly (16; Figure 2; column 5, line 54 - column 6, line 26; Compare applicant's lid 20;

- Figure 2) comprising: a lid having first (22a,b/16 interface) and second opposed surfaces a plurality of controllable flow channels (72, 74, 88, 80, 86, 79, 82; Figure 2) extending from the first (22a,b/16 interface) and second opposed surfaces ; a gas control system (22a,b; Figure 2; column 5, lines 54-65) disposed on the first surface and operably opening and closing the channels, as claimed in claim 3
- ii. the gas control system (22a,b; Figure 2; column 5, lines 54-65) further comprises: a gas manifold (structure for conduits of valves 22a,b; Figure 2) disposed on the lid; and at least one valve (any off 22a,b; Figure 2) coupled to the gas manifold (structure for conduits of valves 22a,b; Figure 2) adapted to control a flow through one of the flow channels (72, 74, 88, 80, 86, 79, 82; Figure 2), as claimed in claim 3
 - iii. wherein the gas control system (22a,b; Figure 2; column 5, lines 54-65) further comprises: a gas manifold (structure for conduits of valves 22a,b; Figure 2) disposed on the lid; at least one valve (any off 22a,b; Figure 2) coupled to the gas manifold (structure for conduits of valves 22a,b; Figure 2) adapted to control a flow through one of the flow channels (72, 74, 88, 80, 86, 79, 82; Figure 2); and a reservoir (56; Figure 1) coupled to the valve, as claimed in claim 3
 - iv. The lid assembly (16; Figure 2; column 5, line 54 - column 6, line 26; Compare applicant's lid 20; Figure 2) of claim 3, wherein the gas manifold (structure for conduits of valves 22a,b; Figure 2) having an upper surface (22a,b/16 interface) and lower surface (80); a first channel (any one of 72; Figure 2), a second channel (74/80; Figure 2) and a third channel (82; Figure 2) each extending through the gas manifold (structure for conduits of valves 22a,b; Figure 2) and exiting the lower surface (near 79; Figure 2); and a fourth channel (88;

Figure 2) extending from the upper surface and coupling to the third channel (82; Figure 2), as claimed in claim 4

- v. The lid assembly (16; Figure 2; column 5, line 54 - column 6, line 26; Compare applicant's lid 20; Figure 2) of claim 4, wherein the gas control system (22a,b; Figure 2; column 5, lines 54-65) is capable of providing a cleaning source of gas, in lue of the material gas (56; Figure 1), and fluidly coupled to the fourth channel (88; Figure 2), as claimed in claims 5, 29, 30, - Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).
- vi. the lid assembly (16; Figure 2; column 5, line 54 - column 6, line 26; Compare applicant's lid 20; Figure 2) of claim 22, wherein the gas manifold (structure for conduits of valves 22a,b; Figure 2) further comprises a fourth channel (88; Figure 2) coupled between the upper surface and the third channel (82; Figure 2), as claimed in claim 20
- vii. the lid assembly (16; Figure 2; column 5, line 54 - column 6, line 26; Compare applicant's lid 20; Figure 2) of claim 20 further comprising: a gas source (56; Figure 1) fluidly coupled to the fourth channel (88; Figure 2), as claimed in claim 21 - Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409;

MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02). Thus, that Conger's gas source (56) is not a cleaning gas source does not structurally distinguish Applicant's apparatus from that of Conger's with respect to claim 21

- viii. the lid having a first (22a,b/16 interface) and second opposed surfaces having a plurality of inlet channels (72, 74, originating conduit for 88) disposed therethrough; the first and second opposed surfaces having a first inlet channel (channel forming 82, 80, 76, 88), a second inlet channel (74/80; Figure 2); and a third channel (82; Figure 2) disposed through the lid, a gas manifold (structure for conduits of valves 22a,b; Figure 2) coupled to the first surface of the lid, the gas manifold comprising a body having an upper surface (22a/16 interface) and lower surface (22b/16 interface); a first channel (channel forming 82, 80, 76, 88), a second channel (74/80; Figure 2) and a third channel (82; Figure 2) each extending through the gas manifold to the lower surface (22b/16 interface); a valve (78/77; Figure 2) coupled to the gas manifold (structure for conduits of valves 22a,b; Figure 2); and a gas reservoir (56; Figure 1) fluidly coupled proximate the valve (78/77; Figure 2), as claimed in claim 22
- ix. the lid assembly (16; Figure 2; column 5, line 54 - column 6, line 26; Compare applicant's lid 20; Figure 2) of claim 22 further comprising: a thermal conditioning channel (88, Figure 2 of Conger, Applicant's specification [00030]) disposed in the gas manifold (structure for conduits of valves 22a,b; Figure 2), as claimed in claim 23. Applicant's specification

[00030] – “ FIGS. 3 and 4 are partial sectional views of the vacuum lid assembly 20. The gas manifold 34 includes a body defining three valve mounting surfaces 59, 61, 64 (mounting surface 64 is shown in FIG. 4) and an upper surface 63 for mounting an upper valve 65. The gas manifold 34 includes three pairs of gas channels 67a, 67b, 69a, 69b, 71a, 71b (71a and 71b are shown on FIG. 4) that fluidly couple the two process gases and a purge gas (shown as fluid sources 68a-c in FIG. 9) to the interior of the processing chamber 16 controllably through the valves 32a, 32b, 32c, thereby allowing thermal conditioning of the gases by the gas manifold 34 before reaching the valves 32a, 32b, 32c.”

- x. the lid having a first (22a,b/16 interface) and second opposed surfaces having a plurality of inlet channels (72, 74, originating conduit for 88) disposed therethrough; the first and second opposed surfaces having a first inlet channel (channel forming 82, 80, 76, 88), a second inlet channel (74/80; Figure 2); and a third channel (82; Figure 2) disposed through the lid, a gas manifold (structure for conduits of valves 22a,b; Figure 2) coupled to the first surface (22a/16 interface) of the lid, the gas manifold comprising a body having an upper surface (22a/16 interface) and lower surface (22b/16 interface); plural gas channels including a first channel (channel forming 82, 80, 76, 88), a second channel (74/80; Figure 2) and a third channel (82; Figure 2) each extending through the gas manifold to the lower surface (22b/16 interface); a valve (78/77; Figure 2) coupled to the gas manifold (structure for conduits of valves 22a,b; Figure 2); and a gas reservoir (56; Figure 1) fluidly coupled proximate the valve (78/77; Figure 2); a gas reservoir (56; Figure 1) fluidly coupled to the valve (78/77; Figure 2) by the thermal conditioning channel (see above), as claimed in claim 31

Conger does not teach a mixer coupled to the second surface of the lid, the mixer having a central passage in communication with the flow channels. Conger does not teach a gas manifold including a conduit disposed therein adapted to flow a heat transfer fluid therethrough. Conger does not teach that the lower surface (inner radius lowest surface of 16) of his gas manifold comprises a plurality of bosses that contact the lid. Conger does not teach a baffle plate.

Hao teaches a semiconductor processing system (column 3, lines 51-67). Further, Hao teaches a mixer (baffle plate assembly 40; Figure 3) coupled to a gas distribution lid (35), the mixer having a central passage (receiving ampoule for 29; Figure 3). Hao further teaches:

- i. a lower surface (bottom of 22) of a gas manifold (22) interfaces a plurality of bosses (outer-most 36's; Figures 3, 4, 6, and 7) that contact a lid (35; Figure 3), where the bosses (upper-most and outer-most 36; Figures 3, 4, 6, and 7) are fabricated with holes disposed therethrough (Figures 3, 4, 6, and 7)
- ii. a first side (top surface of upper-most 40) of his baffle plate further comprising a ring (inner-most and upper-most 36; Figure 3) circumscribing the recess (baffles formed by plate 40) that maintains the first side (top surface of upper-most 40) of the baffle plate (upper-most 40; Figure 3) in a spaced-apart relation with a second surface (bottom of 22) of his gas manifold (22)
- iii. the lid assembly (35) of claim 31 further comprising: a baffle plate having a first side (top surface of upper-most 40) and a second side (bottom surface of upper-most 40), the first side coupled to the second surface (bottom surface of 22) of the lid (35) and having a recess (baffles formed by plate 40) formed therein, the recess (baffles formed by plate 40) defining

a plenum with the second surface (bottom surface of 22) of the lid (35), the baffle plate having a passage (not shown; inherent, consider flow with the apparatus of Figures 3 and 4) disposed therethrough providing a passageway between the plenum and the second side of the baffle plate, as claimed in claim 32

- iv. the lid assembly (35) of claim 32, wherein the second surface (lower surface of 22) of the lid further comprises a plurality of recesses (baffles formed by plate 40) formed therein that reduce the contact area with the first side (top surface of upper-most 40) of the baffle plate, as claimed by claim 33
- v. the lid assembly (35) of claim 32, wherein the first side (top surface of upper-most 40) of the baffle plate further comprises a plurality of bosses (36's; Figures 3, 4, 6, and 7) that maintain the first side (top surface of upper-most 40) of the baffle plate (upper 40) in a spaced-apart relation with the second surface (lower surface of 22) of the lid (35), as claimed in claim 37
- vi. the lid assembly (16; Figure 2; column 5, line 54 - column 6, line 26; Compare applicant's lid 20; Figure 2) of claim 37, wherein at least one of the bosses (outer-most 36's; Figures 3, 4, 6, and 7) has a mounting hole disposed therethrough (Figures 4, 4a), as claimed in claim 38
- vii. the lid assembly (35; Figure 3) of claim 32, wherein the first side (top surface of upper-most 40) of the baffle plate (upper 40) further comprises a ring (inner-most and upper-most 36; Figure 3) circumscribing the recess (baffles formed by plates 40) that maintains the first side (top surface of upper-most 40) of the baffle plate (upper 40) in a spaced-apart relation with the second surface (bottom of 22) of the lid (35), as claimed in claim 39.

- viii. the lid assembly (35) of claim 32, wherein the first side (top surface of upper-most 40) of the baffle plate (upper 40) further comprises a ring (inner-most and upper-most 36; Figure 3) circumscribing the recess (baffles formed by plates 40) and a plurality of bosses (outer-most 36's; Figures 3, 4, 6, and 7) disposed radially outward of the ring (inner-most and upper-most 36; Figure 3), the ring (inner-most and upper-most 36; Figure 3) and bosses (outer-most 36's; Figures 3, 4, 6, and 7) maintaining the first side (top surface of upper-most 40) of the baffle plate (upper 40) in a spaced-apart relation with the second surface (bottom of 22) of the lid (35), as claimed in claim 40
- ix. the lid assembly (35) of claim 40, wherein the ring (inner-most and upper-most 36; Figure 3) and bosses (outer-most 36's; Figures 3, 4, 6, and 7) extend from the first side (top surface of upper-most 40) of the baffle plate (upper 40) to a common elevation (Figure 3), as claimed in claim 41

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Hao's baffle plate and lid assembly (35, Figure 3) to the exit (82) of Conger's lid assembly.

Motivation to add Hao's baffle plate and lid assembly to the exit of Conger's lid assembly is to provide uniform processing gas distribution and control heat in the gas distribution passages as taught by Hao (column 4, lines 48-50; column 5, lines 19-36).

Response to Arguments

14. Applicant's arguments filed September 25, 2003 have been fully considered but they are not persuasive.

15. Applicant's arguments traversing the rejection of claims 3-6, 20-23, 29-33 and 37-41 which stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over co-pending claims 12-19 of U.S. Patent Application Serial No. 09/798,258, in view of U.S. Patent No. 5,423,936 are considered but are not persuasive. The traversal is on the grounds that:

“

Every claim in the present application provides a lid assembly comprising a reservoir fluidly connected to a gas manifold. Co-pending claims 12-19 of Application '258 and patent '936 alone or in combination, do not teach, show, or suggest a lid assembly comprising a reservoir fluidly connected to a gas manifold. Accordingly, Applicants request withdrawal of the rejection.

”

In response, the Examiner directs Applicant to claims 12, 13, 15, 16, 17, 18, and 19 from copending Application Serial Number 09/798,258 all of which teach, show, and suggest a lid assembly comprising a reservoir fluidly connected to a gas manifold.

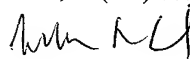
16. The remainder of Applicant's arguments are based on the amendments to the claims filed in response to the first action on the merits. In response, Applicant is directed to the body of the claim rejections above that reflect the on the amendments to the claims filed in response to the first action on the merits.

Conclusion

17. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (703) 305-1351. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official after final fax phone number for the 1763 art unit is (703) 872-9311. The official before final fax phone number for the 1763 art unit is (703) 872-9310. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (703) 308-0661. If the examiner can not be reached please contact the examiner's supervisor, Gregory L. Mills, at (703) 308-1633.



JEFFRIE R. LUND
PRIMARY EXAMINER